

1. An isolated polynucleotide of Figure 4A (Seq. ID NO. 1), said polynucleotide comprising the DNA sequence encoding the amino acid sequence of the light chain variable (VK) region of the LL2 monoclonal antibody (mAb).

3. An isolated polynucleotide of Figure 5A (SEQ. ID NO. 5), said polynucleotide comprising the DNA sequence encoding the amino acid sequence of the hLL2 VK domain.

4. An isolated polynucleotide of Figure 5B (SEQ. ID NO. 7), said polynucleotide comprising the DNA sequence encoding the amino acid sequence of the hLL2 VH domain.

5. A protein encoded by the polynucleotides of any one of claims 1 to 4, inclusive.

6. An isolated complementarity determining region-1 (CDR1) polypeptide of the VK region of the LL2 mAb, comprising amino acids 24 to 40 of SEQ ID NO. 2:

KSSQSVLYSANHKNYLA

7. An isolated CDR2 polypeptide of the VK region of LL2 mAb, comprising amino acids 56 to 62 of SEQ ID NO. 2:

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8. An isolated CDR3 polypeptide of the VK region of the LL2 mAb, comprising amino acids 95 to 102 of SEQ ID NO. 2:

HQY\SSWT

9. An isolated CDR1 polypeptide of the VH region of the LL2 mAb, comprising amino acids 31 to 35 of SEQ ID NO. 4:

SYWLH

- 29 10. An isolated CDR2 polypeptide of the VH region of the LL2
30 mAb, comprising amino acids 50 to 66 of SEQ ID NO. 4:
31 YINPRNDYTEYNQNFKD
- 32 11. An isolated CDR3 polypeptide of the VH region of the LL2
33 mAb, comprising amino acids 99 to 105 of SEQ ID NO. 4:
34 RDITTFY
- 35 12. The polynucleotide of Claim 1 inserted into a VKpBR plasmid.
- 36 13. The polynucleotide of Claim 2 inserted into a VHpBS
37 plasmid.
- 38 14. A plasmid of Claim 12 or Claim 13, further comprising an Ig
39 promoter and a signal peptide sequence.
- 40 15. A polynucleotide of Claim 1 or Claim 3 incorporated into a
41 mammalian expression vector, designated LL2pKh, said vector further
42 comprising an Ig promoter, a signal peptide DNA sequence, a genomic
43 sequence of the human kappa constant region, an Ig enhancer, a kappa
44 enhancer, and a marker gene.
- 45 16. A polynucleotide of Claim 2 or Claim 4 incorporated into a
46 mammalian expression vector, designated LL2pG1g, the vector further
47 comprising an Ig promoter, a signal peptide DNA sequence, a genomic
48 sequence of a human IgG1 constant region, an Ig enhancer and a marker
49 gene.
- 50 17. A cLL2 mAb, comprising the light chain and heavy chain
51 chains of the mLL2 mAb linked to the human kappa and human IgG1
52 constant regions, respectively.
- 53 18. A hLL2 mAb, comprising a light chain and a heavy chain
54 complementarity-determining region of a mLL2 mAb joined to a
55 framework sequence of a human VK and human VH region, respectively,
56 linked to human kappa and IgG1 constant region domains, respectively,
57 such that said hLL2 mAb retains substantially the B-lymphoma cell and

58 leukemia cell targeting and cell internalization characteristics of the parent
59 mLL2 antibody.

60 19. A conjugate, comprising a cLL2 or hLL2 antibody or fragment
61 thereof covalently bound to a diagnostic or therapeutic reagent.

62 20. A conjugate of Claim 19, wherein said diagnostic reagent
63 comprises a label.

64 21. A conjugate of Claim 19, wherein said therapeutic reagent
65 comprises a cytotoxic agent.

66 22. A conjugate of Claim 19, wherein said reagent is bound to
67 said antibody or fragment thereof by means of a carbohydrate moiety of
68 said antibody or fragment thereof.

69 23. A method of treating a B-cell lymphoma or leukemia in a
70 subject, comprising the step of administering to said subject a
71 therapeutically effective amount of the conjugate of Claim 21 formulated
72 in a pharmaceutically acceptable vehicle.

73 24. A method of diagnosing a B-cell lymphoma or leukemia cell in
74 a subject, comprising the steps of administering to said subject a
75 diagnostically effective amount of the conjugate of Claim 20 formulated in
76 a pharmaceutically acceptable vehicle, and detecting said label.

